METHOD OF FABRICATING CARBON NANOTUBE FIELD EMISSION SOURCE

Abstract

A method of transferring imprint carbon nano-tube (CNT) field emitting source is disclosed. Firstly, cathode lines are screen printed on a substrate. Then a dielectric layer formation on the cathode lines and substrate is followed. Afterward, gate lines formed on the dielectric layer by screen printing are performed. Next a patterning process is carried out to form openings. Subsequently, an imprint negative mold is dipped with CNT paste and imprinted the CNT paste on the cathode lines through the openings. After drawing of pattern from the imprint mold, the CNT paste is cured by annealing. Since the emitting sources are formed through the imprint negative mold, as a result, the size and shape can be predetermined. Moreover, the intervals between gate line and the emitting source are readily control, which resolve the circuit short problem between gate and cathode. Consequently, the current density, brightness, and uniformity of the emitter sources are significantly improved.